

WHAT IS CLAIMED IS:

1. A method of grouting an internal cable of a post-tensioned prestressed-concrete structure, said method comprising the steps of:

- 5            fabricating a cable for testing at a place other than a construction site of the post-tensioned prestressed-concrete structure, said cable for testing having a sheath made of a transparent material and having a same three-dimensional configuration as that of the  
10 internal cable at the construction site except that the cable for testing does not have a cast concrete part;  
             performing grouting testing, prior to carrying out an operation of grouting the internal cable of the post-tensioned prestressed-concrete structure at the  
15 construction site, by injecting grout into the cable for testing under a plurality of different testing conditions;  
             selecting best grouting conditions from grouting testing results obtained by visual observation through said transparent sheath; and  
20            applying the selected best grouting conditions to grouting actually carried out at the construction site.

2. A method of grouting an internal cable of a post-tensioned prestressed-concrete structure, said method comprising the steps of:

- 25            fabricating a cable for testing as a partial specimen at a place other than a construction site of the post-tensioned prestressed-concrete structure, said cable for testing having a sheath made of a transparent material

and having a same three-dimensional configuration as that of a lengthwise part of the internal cable at the construction site in which an air trap is likely to occur, except that said cable for testing does not have a cast  
5 concrete part;

performing grouting testing, prior to carrying out an operation of grouting the internal cable of the post-tensioned prestressed-concrete structure at the construction site, by injecting grout into said cable for  
10 testing under a plurality of different testing conditions;

selecting best grouting conditions from grouting testing results obtained by visual observation through said transparent sheath; and

applying the selected best grouting conditions to  
15 grouting actually carried out at the construction site.

3. A method of grouting an internal cable of a post-tensioned prestressed-concrete structure according to claim 1 or 2, wherein the three-dimensional configuration of the cable having a sheath made of a transparent  
20 material is formed by using supports.

4. A method of grouting an internal cable of a post-tensioned prestressed-concrete structure according to any one of claims 1 to 3, wherein the cable for testing having a three-dimensional configuration has a transparent sheath  
25 provided only in a vicinity of a bent portion or/and in a vicinity of an elevated portion of the cable.

5. A method of grouting an internal cable of a post-tensioned prestressed-concrete structure according to any

one of claims 1 to 4, wherein the sheath made of a transparent material, which is used in grouting testing performed at a place other than the construction site, makes it possible to surely and easily perform, by visual  
5 observation, inspection of a grout filling condition during grouting, testing to find a portion in the sheath where an air trap is formed, selection of optimal conditions for regrouting an air-trap portion, and selection of positions where a grout discharge pipe and an  
10 air exhaust pipe are to be installed, and a number and bore diameter of such pipes.

6. A method of grouting an internal cable of a post-tensioned prestressed-concrete structure according to any one of claims 1 to 5, wherein the testing conditions of  
15 the grouting testing are at least one selected from the following (1) to (6): (1) a composition of the grout, e.g. mix proportions of components of the grout, or a water-cement ratio of the grout; (2) physical properties of the grout, e.g. viscosity-temperature characteristics and  
20 bleeding characteristics of the grout; (3) grouting means, e.g. grouting pressure, grouting speed, and grouting quantity; (4) regrouting means, e.g. pressure, rate and quantity of grout reinjected through an injection pipe into a portion in the sheath where an air trap is formed,  
25 and a position, number and bore diameter of regrouting pipes; (5) grout discharge and air exhaust means, e.g. an installation position, number and bore diameter of grout discharge and air exhaust pipes; and (6) a step of a

construction procedure, i.e. a step at which, prior to grouting, water is previously injected into the sheath, and as the grout is injected, injected water is discharged from the sheath, thereby making flow of the grout in the  
5 sheath even more uniform by utilizing a small difference in specific gravity between the grout and water, or a step of lowering a temperature of concrete and a temperature in the sheath when these temperatures are high.

7. A method of grouting an internal cable of a post-  
10 tensioned prestressed-concrete structure according to any one of claims 1 to 6, wherein the transparent sheath is made of a polyethylene resin.

8. A method of grouting an internal cable of a post-  
15 tensioned prestressed-concrete structure according to any one of claims 1 to 7, wherein the transparent sheath is made of an ionomer resin.